

IN THE CLAIMS:

LISTING OF ALL CLAIMS:

Claims 1-10 - CANCELLED

- B¹
11. (Currently Amended) A semiconductor device as claimed in claim 31, wherein said substrate for basic structure contains comprising
- (1) ~~a substrate containing~~ a material of formula LnABO_4 or $\text{LnAO}_3(\text{BO})_n$ ~~for basic structure,~~
- wherein,
- Ln is a rare earth element,
- A is selected from the group consisting of Fe, Ga and Al,
- B is selected from the group consisting of Mn, Co, Fe, Zn, Cu, Mg, and Cd, and,
- ~~a semiconductor layer formed on said substrate,~~
- wherein said semiconductor layer is formed from a group II metal oxide.
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12. (Original) The semiconductor device as claimed in Claim 11,
- wherein Ln is selected from the group consisting of Sc, In, Lu, Yb, Tm, Ho, Er and Y.
13. (Original) The semiconductor device as claimed in Claim 11,
- wherein the group II metal oxide is selected from the group consisting of zinc oxide (ZnO), zinc magnesium oxide ($\text{Mg}_x\text{Zn}_{1-x}\text{O}$), zinc cadmium oxide ($\text{Cd}_x\text{Zn}_{1-x}\text{O}$) and cadmium oxide (CdO).
- B²
14. (Original) The semiconductor device according to claim 11,
- wherein said substrate is a material selected from the group consisting of ScAlMgO_4 , ScAlZnO_4 , ScAlCoO_4 , ScAlMnO_4 , ScGaZnO_4 , ScGaMgO_4 , $\text{ScAlZn}_3\text{O}_6$, $\text{ScAlZn}_4\text{O}_7$, $\text{ScAlZn}_7\text{O}_{10}$, $\text{ScGaZn}_3\text{O}_6$, $\text{ScGaZn}_5\text{O}_8$, $\text{ScGaZn}_7\text{O}_{10}$, $\text{ScFeZn}_2\text{O}_5$, $\text{ScFeZn}_3\text{O}_6$, and $\text{ScFeZn}_6\text{O}_9$,
- and,
- ZnO is used as a material for said semiconductor layer.
15. (Original) The semiconductor device according to claim 11,
- wherein said substrate is a material selected from the group consisting of ScAlO_3 (ZnO)_n, $\text{ScFeO}_3(\text{ZnO})_n$, $\text{ScGaO}_3(\text{ZnO})_n$, $\text{InFeO}_3(\text{ZnO})_n$, $\text{InGaO}_3(\text{ZnO})_n$, $\text{InAlO}_3(\text{ZnO})_n$, $\text{YbAlO}_3(\text{ZnO})_n$, and $\text{LuAlO}_3(\text{ZnO})_n$,
- and,
- ZnO is used as a material for said semiconductor layer.
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16. (Currently Amended) A semiconductor device as claimed in claim 31, wherein said substrate for basic structure contains comprising,
(2) a substrate containing a material selected from the group consisting of ScAlBeO_4 , ScBMgO_4 , ScBBeO_4 and $\text{LnAO}_3(\text{MgO})_n$, $\text{LnAO}_3(\text{MgO})_n$,
wherein A is selected from the group consisting of Fe, Ga and Al,
B is ~~selected from the group consisting of Mn, Co, Fe, Zn, Cu, Mg and Cd~~ Boron, and
a said semiconductor layer is formed ~~on said substrate~~ from a material selected from
the group consisting of GaN, AlN, InGaN and AlInN.

17. (Original) The semiconductor device according to claim 11,
further comprising a buffer layer, between said substrate and said semiconductor
layer,

wherein said buffer layer contains a material having a composition or a structure
identical to that of said semiconductor layer as a base and slightly doped or undoped with
impurities.

18. (Original) The semiconductor device according claim 17,
wherein ZnO is used for said semiconductor layer, and
said buffer layer is an insulating material slightly doped with an element capable of
taking valence of 1 value or a group V element, an insulating semiconductor containing
undoped and pure insulating ZnO or a combination thereof.

19. (Original) The semiconductor device according to claim 18,
wherein said buffer layer is ZnO.

20. (Original) The semiconductor device according to Claim 11,
further comprising an insulating layer formed by using a material identical to that for
said substrate for a basic structure.

21. (Original) The semiconductor device according to claim 11,
further comprising a light emission layer formed on said semiconductor layer by
using a material having a composition or a structure identical to that of said semiconductor
layer as a base, and

a second semiconductor layer which is formed on said light emission layer by using a
material having a composition or a structure identical to that of said semiconductor layer as a
base, and which has a different channel from that of said semiconductor layer.

22. (Original) The semiconductor device according to claim 21,

wherein said light emission layer is selected from the group consisting of a multilayer structure of (Mg, Zn)O and ZnO, a multilayer structure of (Zn, Cd)O and ZnO, and a multilayer structure of (Mg, Zn)O and (Zn, Cd)O.

23. (Original) The semiconductor device according to claim 11, wherein said semiconductor layer is an insulating semiconductor, input and output electrodes are further formed on said semiconductor layer, and a filter characteristic is provided.

24. (Original) The semiconductor device according to claim 16, further comprising a buffer layer, between said substrate and said semiconductor layer,

wherein said buffer layer contains a material having a composition or a structure identical to that of said semiconductor layer as a base and slightly doped or undoped with impurities.

25. (Original) The semiconductor device according to claim 24, wherein ZnO is used for said semiconductor layer, and said buffer layer is an insulating material slightly doped with an element capable of taking valence of 1 value or a group V element, an insulating semiconductor containing undoped and pure insulating ZnO, or a combination thereof.

26. (Original) The semiconductor device as claimed in claim 25, wherein said buffer layer is ZnO.

27. (Original) The semiconductor device according to Claim 16, further comprising an insulating layer formed by using a material identical to that for said substrate for a basic structure.

28. (Original) The semiconductor device according to claim 16, further comprising a light emission layer formed on said semiconductor layer by using a material having a composition or a structure identical to that of said semiconductor layer as a base, and

a second semiconductor layer which is formed on said light emission layer by using a material having a composition or a structure identical to that of said semiconductor layer as a base, and which has a different channel from that of said semiconductor layer.

29. (Original) The semiconductor device according to claim 28,

wherein said light emission layer is selected from the group consisting of a multilayer structure of (Mg, Zn)O and ZnO, a multilayer structure of (Zn, Cd)O and ZnO, and a multilayer structure of (Mg, Zn)O and (Zn, Cd)O.

30. (Original) The semiconductor device according to claim 16, wherein said semiconductor layer is an insulating semiconductor, input and output electrodes are further formed on said semiconductor layer, and a filter characteristic is provided.

31. (New) A semiconductor device comprising, a substrate for basic structure containing

(1) a material of formula LnABO_4 or $\text{LnAO}_3(\text{BO})_n$,

wherein,

Ln is a rare earth element,

A is selected from the group consisting of Fe, Ga and Al,

B is selected from the group consisting of Mn, Co, Fe, Zn, Cu, Mg, and Cd, or

(2) a material of formula ScAlBeO_4 , ScBMgO_4 , ScBBeO_4 , or $\text{LnAO}_3(\text{MgO})_n$

wherein,

Ln is a rare earth element,

A is selected from the group consisting of Fe, Ga and Al,

B is Boron; and

a semiconductor layer formed on said substrate,

wherein said semiconductor layer is formed from a material comprising group II metal oxide or group III nitrides.